

REMARKS

The following remarks are submitted in response to the Office Action mailed November 26, 2004. All claims were rejected in the pending application. The specification was objected to, specifically, the abstract was objected to for language format. Claims 1, 4-7 and 14 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 1,896,259 issued to Thackray (Thackray). Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,074,906 issued to Hausler (Hausler); or U.S. Patent No. 1,071,985 issued to Conkling (Conkling '985); or U.S. Patent No. 968,450 issued to Conkling et al. (Conkling '450).

Response to Specification Objection

The Examiner objected to the specification with regard to use of improper language and format for an abstract of the disclosure. The Examiner's comments have been taken into consideration and appropriate amendments to the specification have been made. Accordingly, the Applicant submits a replacement to the original abstract. Applicant believes the abstract is now in proper format. The Examiner also objected to the disclosure. In accordance with the Examiner's request, the specification has been amended to update the incorporation by reference paragraph by adding the patent number and issue date. Applicant respectfully requests withdrawal of this objection.

Rejection Under 35 U.S.C. § 102(b)

The Examiner has rejected the claims under 4 separate §102(b) rejections, but has failed to provide analysis of his rejection. Applicant therefore provides the following general comments regarding the art cited as applied to the claims under §102(b). Claim 14 has been canceled and therefore any rejection to this claim is moot and is not discussed below.

Rejection Under 35 U.S.C. § 102(b): Thackray

Claims 1, and 4-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by Thackray. Anticipation under 35 U.S.C. § 102 “requires that each and every element of the claimed invention be disclosed in the prior reference.” *Akzo v. U.S. Int’l Trade Comm’n*, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986). Thackray does not disclose each and every element of the integral retaining anchors of the rejected claims.

Thackray describes a sheet pile wall with tie rods 15 (See Figure 1). Thackray discusses resistance to longitudinal shear related to beam action; namely, resistance to soil pressure is through a tie rod in combination with a dead man anchor and shaped sheet pile. The sheet pile is shaped to resist bending, for example, a “Z” shaped sheet is taught. The system disclosed and claimed in Thackray is directed toward increasing the flexural or bending strength of the shaped sheet pile. Thackray thus teaches the securing of sections together, such as through welding or riveting, to increase the resistance of the piling to flexure. Thackray is silent with respect to tension membrane sheet structures. Due to the configuration of the Thackray system, the shaped sheet pile wall alone is incapable of resisting tension forces, and thus incorporates the use of tie rods and deadman anchors.

Independent claim 1 is directed toward a plurality of interlocking sheet pile having integral retaining anchors, the retaining anchors providing resistance in a direction less than normal to the face of the sheet pile thus increasing the overall tension or pullout resistance of the system.

Thackray does not teach or suggest an integral retaining anchor for resisting soil forces as claimed. Thackray does not provide any suggestion for modifying his invention to provide an integral retaining anchor for resisting tension or pullout forces; rather, Thackray provides only a system for increasing the flexural strength of a shaped sheet pile wall. Any modification would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, independent claim 1 is patentable over Thackray and is in condition for allowance. Regarding dependent claims 2-7, Applicant respectfully

submits for the above reasons that these claims are patentable over Thackray and are in condition for allowance.

Rejection Under 35 U.S.C. § 102(b): Hausler

Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hausler. Anticipation under 35 U.S.C. § 102 “requires that each and every element of the claimed invention be disclosed in the prior reference.” *Akzo v. U.S. Int’l Trade Comm’n*, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986). Hausler does not disclose each and every element of the integral retaining anchors of the rejected claims.

Hausler teaches a guide for use in driving sheet piling and is silent with respect to soil anchors. The guides disclosed by Hausler are temporary devices that are removed after the sheets are driven. Applicant fails to understand how Hausler is being applied to the current invention, or how Hausler anticipates the integral retaining anchors of the current invention.

Independent claims 1 and 8 are directed toward a plurality of interlocking sheet pile having integral retaining anchors, the retaining anchors providing resistance in a direction less than normal to the face of the sheet pile thus increasing the overall tension or pullout resistance of the wall system.

Hausler does not teach or suggest an integral retaining anchor for resisting soil forces as claimed. Hausler does not provide any suggestion for modifying his invention to provide an integral retaining anchor or a protrusion for resisting tension or pullout forces; rather, Hausler provides only a system for guiding sheet pile during the driving operation. Therefore, independent claims 1 and 8 are patentable over Hausler and are in condition for allowance. Regarding dependent claims 2-7 and 9-12, Applicant respectfully submits for the above reasons that these claims are patentable over Hausler and are in condition for allowance.

Response to Section 102(b) Rejection: Conkling '985

Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Conkling '985. Conkling '985 does not disclose each and every element of the installed earth retaining system having integral retaining anchors of the rejected claims.

Conkling '985 describes a lining for a steel caisson. Conkling '985 provides a liner in the steel caisson in order to prevent concrete from coming into direct contact with the steel sheet pile. Column 2, lines 10-21. The caisson disclosed in Conkling '985 is a closed cell structure and is designed as a temporary formed system such that the caisson can be excavated and then backfilled with concrete. Once the concrete cures, the steel sheet pile can be removed and reused.

The lining boards disclosed by Conkling '985 are designed such that they are spaced apart from steel sections by supports to reduce concrete bonding to the steel and make possible the withdrawal of the steel sheets. Column 2, lines 22-53. Conkling '985 does not describe a protrusion extending from the face of the sheet and integral therewith, the protrusion providing resistance to soil forces. Conkling '985 describes a spacing member to reduce the friction such that the lining boards do not set flat against the steel sections, but maintain a suitable distance out of contact therewith or only contacting at a limited number of points. These blocks or spacing members reduce the friction when removing the sheet pile and thus allow the sheet pile to be removed undamaged. Due to the closed cell nature of the caisson, these interior blocks or protrusions would not provide resistance to soil forces as claimed in the instant invention.

Conkling '985 therefore does not teach or suggest a protrusion for resisting soil forces as claimed. Conkling '985 does not provide any suggestion for modifying his invention to provide a protrusion for resisting soil forces, rather, Conkling '985 provides only space or blocks for holding the lining a distance away from the steel caisson. Any modification would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, independent claim 8 is patentable over Conkling '985 and is in condition for allowance. Regarding dependent claims 2-7 and 9-12, Applicant respectfully submits for the

above reasons that these claims are patentable over Conkling '985 and are in condition for allowance.

Rejection Under 35 U.S.C. § 102(b): Conkling '450

Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Conkling '450. Conkling '450 does not disclose each and every element of the integral retaining anchors of the rejected claims.

Conkling '450 describes junction pieces for increasing the rigidity and strength of the wall. Specifically, Conkling '450 describes reinforcing members for use as stiffeners.

Conkling '450 is silent with respect to integral soil anchors, as claimed. Conkling '450 does not teach or suggest an installed earth retaining system using sheet pile having integral retaining anchors, as claimed. Conkling '450 does not disclose a retaining anchor integral to the sheet pile wherein the retaining anchor provides resistance in a direction less than normal to the face and thus increasing soil resistance of the overall system. Conkling '450 specifically describes a variety of junction members that may additionally be used as stiffeners for reinforcing the rigidity and strength of the wall. Accordingly, because claims 1 and 8 contains at least one element not disclosed by Conkling '450, claims 1 and 8 are *prima facie* not anticipated under 35 U.S.C. § 102(b) by Conkling '450. Therefore, claims 1 and 8 and their dependent claims thereof are patentable over Conkling '450 and are in condition for allowance.

Further, Conkling '450 does not provide any suggestion of modifying the junction members used to strengthen his sheet pile to an installed earth retaining system having integral soil anchors, and any such modification would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, independent claim 1 and the dependent claims thereof are patentable over Conkling '450 under 35 U.S.C. § 103.

Conclusion

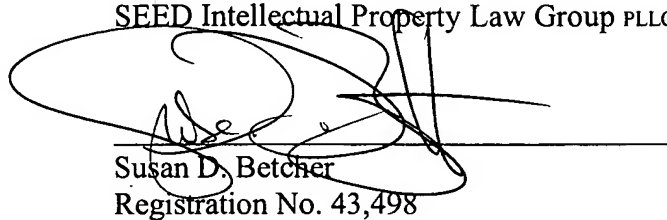
Applicant respectfully submits that all claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly

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solicited. If questions remain, please contact the undersigned at the telephone number listed below. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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